

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application)	<u>PATENT APPLICATION</u>
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SC/Serial No.:)	
Unknown)	
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Filed:)	
Herewith)	
)	
Title:)	
DATA TRANSFER AND)	
SYNCHRONIZATION SYSTEM)	<u>Customer No. 23910</u>
)	

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(Signature)

Johann S. Mercado

Signature Date: January 2, 2001

PRELIMINARY AMENDMENT

Box PATENT APPLICATION
Commissioner for Patents
Washington, D.C. 20231

Sir:

Please enter amendments to the accompanying application as follows:

Amendments

In the Specification:

Please amend the title by deleting the title and inserting therefor "BINARY DATA
SYNCHRONIZATION ENGINE".

On page 1, line 1, please insert --This application is a continuation of Application Serial No. 09/490,550, filed January 25, 2000.--

On page 1, line 7, please insert a period after "whatsoever".

On page 2, line 10, after "organizer," insert --a notebook computer--.

On page 2, line 10, delete "perhaps".

On page 2, line 10, delete "The individual may".

On page 2, delete lines 11-13.

On page 3, line 14, delete "determinant" and insert therefor --determination-- and delete "allows" and insert therefor --requires--.

On page 3, line 25, delete "instances" and insert therefor --cases--.

On page 4, line 5, delete "relatively".

On page 5, line 12 - page 7, line 9, delete the "SUMMARY OF THE INVENTION" and insert therefor:

--The invention, roughly described, comprises a process for comparing binary file data and a record of such data. The process may be embodied in a synchronizer or computer which runs on a network coupled device to compare such file data for the purpose of synchronizing the binary data with another version of the data. The other version of the data may be located on a different network coupled device. In one embodiment, the invention comprises computer code on a network coupled processing device for comparing at least one file on the personal computer and a record of the file on the computer, and providing binary differencing data between the file and the record of the file; and a transaction generator providing at least one binary difference transaction including said binary differencing data to an output. The invention may further include code for applying a difference transaction received from a second synchronizer to the at least one file.

In a second aspect, the invention comprises an article of manufacture, comprising a nonvolatile storage apparatus including computer code. The computer code includes an application data access routine, a differencing transaction generator including binary difference data extractor, a user interface, and a network transfer routine.

In a further aspect, the invention is an installation package transmittable over a network connection comprising a system installation routine and a binary difference transaction generator. The binary difference transaction includes a binary difference comparison between a first file and a previous version of said first file, and a network coupling routine.

In yet another aspect, the invention may comprise a synchronizer provided on a network coupled server, comprising computer code for comparing at least one file on a network coupled device in communication with the network coupled server and extracting binary differencing data representing the difference between the file and a record of the file on a network storage device, and a transaction generator providing at least one transaction including said binary differencing data to an output.

In a still further aspect, the invention comprises a binary differencing synchronization system, comprising at least a first binary differencing engine coupled to a first network coupled device, at least a second binary differencing engine coupled to a second network coupled device, and a storage device coupled to the first and the second network coupled devices storing binary differencing data from and outputting binary differencing data to said at least first and second binary differencing engines.--

On page 9, line 18, please insert the following paragraph:

--Personal Information Space

As used herein, the term "personal information space" means a data store of information customized by, and on behalf of a user including contacts, events, bookmarks,

tasks, notes, and other data objects such as text files or data files which belong to the user.--

On page 10, line 18, please delete "{an" and insert therefor --{and--.

On page 19, line 9, after "data packages," please insert --an example of--.

On page 26, line 14, please delete "sync server" and insert therefor --Sync Server--.

On page 31, line 27, after "devices" insert --Hence, the user's personal information store is maintained on a user-by-user basis.--

On page 32, line 7, delete "would free" and insert therefor --frees--.

On page 34, line 18, before "Folder" insert --The-- and after "also" insert --a--.

On page 34, line 20, insert --The-- before "**FindItem**".

On page 34, line 22, insert --The-- before "**ModifyItem**".

On page 34, line 27, insert --The-- before "Item object".

On page 35, line 7, insert --The-- before "Attachment".

On page 35, line 8, delete "Only Item can" and insert therefor --Only the item object can--.

On page 36, line 29, after "Another" insert --exemplary--.

On page 36, line 29, delete "that is worth exploring is Binary. Binary" and insert therefor --is Binary. A Binary--.

On page 36, line 30, after "represent" delete "a".

On page 63, line 22, delete "bite" and insert therefor --byte--.

On page 63, line 25, delete "bite" and insert therefor --byte--.

On page 63, line 27, delete "bites" and insert therefor --bytes--.

On page 63, line 28, delete "bites" and insert therefor --bytes--.

On page 63, line 29 delete "bites" and insert therefor --bytes--.

On page 63, line 30, delete "bites" and insert therefor --bytes--.

On page 65, line 3, delete "allocation" and insert therefor --application--.

In the Claims:

Please delete claims 1-79 and insert therefor:

1 80. A synchronizer provided on a network coupled processing device comprising:
2 computer code for comparing at least one file on the personal computer and
3 a record of the file on the computer, and providing binary differencing data between
4 the file and the record of the file; and
5 a transaction generator providing at least one binary difference transaction
6 including said binary differencing data to an output.

1 81. The synchronizer of claim 80 wherein the output is coupled to a network,
2 and the synchronizer is operatively coupled to at least one storage server via the network,
3 the storage server receiving said difference transaction from said synchronizer.

1 82. The synchronizer of claim 81 wherein the synchronizer receives at least one
2 binary difference transaction from the storage server, and further including computer code
3 for applying the received difference transaction to the at least one file on the device.

1 83. The synchronizer of claim 82 wherein the synchronizer includes code for
2 updating the record of the file on the device subsequent to applying the received difference
3 transaction.

1 84. The synchronizer of claim 80 wherein the output 1 is coupled to a second
2 synchronizer and the binary difference transaction is provided to said second synchronizer.

1 85. The synchronizer of claim 84 wherein the second synchronizer is on said
2 device.

1 86. The synchronizer of claim 84 wherein the second synchronizer is coupled to
2 a network, and the output of the transaction generator is coupled to the network and the
3 second synchronizer.

1 87. The synchronizer of claim 80 wherein the output is coupled to a network and
2 the synchronizer is operatively coupled to at least one storage server via the network
3 receiving said difference transaction from said synchronizer via the network, and the
4 second synchronizer is coupled to the storage server.

1 88. The synchronizer of claim 80 wherein the synchronizer further includes an
2 encryption routine encrypting the difference transaction.

1 89. The synchronizer of claim 80 wherein the synchronizer further includes a
2 compression routine.

1 90. The synchronizer of claim 80 wherein the computer code for comparing at
2 least one file on the personal computer includes Xdelta.

1 91. An article of manufacture, comprising:
2 a nonvolatile storage apparatus including computer code, the computer code
3 including:

4 an application data access routine;
5 a differencing transaction generator including binary difference data
6 extractor;
7 a user interface; and
8 a network transfer routine.

1 92. The article of manufacture of claim 91 wherein the nonvolatile storage
2 apparatus is a local storage device in a computer.

1 93. The article of manufacture of claim 91 wherein the nonvolatile storage
2 apparatus comprises a network storage apparatus.

1 94. The article of manufacture of claim 91 wherein the computer code is
2 provided in an installation package further including an installation routine.

1 95. The article of manufacture of claim 91 wherein the differencing transaction
2 generator determined difference data based on comparing at least one file to a record of
3 said at least one file.

1 96. The article of manufacture of claim 95 wherein the differencing transaction
2 generator outputs instructions to add, delete or modify the file based on the difference data
3 extracted.

1 97. The article of manufacture of claim 91 wherein the binary difference data
2 extractor comprises Xdelta.

1 98. The article of manufacture of claim 91 further including an encoder routine
2 operable on said differencing transaction.

1 99. The article of manufacture of claim 91 further including an compression
2 routine operable on said differencing transaction.

1 100. An installation package transmittable over a network connection, comprising:
2 a system installation routine;
3 a binary difference transaction generator, the binary difference transaction
4 including a binary difference comparison between a first file and a previous version
5 of said first file; and
6 a network coupling routine.

1 101. The installation package of claim 100 wherein the installation routine is
2 determined based on a type of device for which the installation package is intended.

1 102. The installation package of claim 100 wherein the application data access
2 routine includes a file system access routine.

1 103. The installation package of claim 100 further including an encoder.

1 104. The installation package of claim 100 further including a compression routine.

1 105. The installation package of claim 100 wherein the installation package is

2 accessible via the World Wide Web.

1 106. The installation package of claim 100 provided on a nonvolatile storage
2 medium.

1 107. The installation package of claim 106 wherein the nonvolatile storage
2 medium is a local storage device in a network coupled processing device.

1 108. The installation package of claim 106 wherein the nonvolatile storage
2 medium is a network storage server.

1 109. A synchronizer provided on a network coupled server, comprising:
2 computer code for comparing at least one file on a network coupled device
3 in communication with the network coupled server and extracting binary
4 differencing data representing the difference between the file and a record of the
5 file; and
6 a transaction generator providing at least one transaction including said
7 binary differencing data to an output.

1 110. The synchronizer of claim 109 wherein the record of the file is provided on
2 the network coupled device.

1 111. The synchronizer of claim 109 wherein the record of the file is provided on
2 the network coupled server.

1 112. The synchronizer of claim 109 wherein the record of the file is a previous
2 version in time of the file.

1 113. The synchronizer of claim 109 wherein the synchronizer further includes
2 application code to modify a second version of the file by applying said binary differencing
3 data to the second version of the file.

1 114. The synchronizer of claim 113 wherein the second version of the file is on
2 a second network coupled device.

1 115. The synchronizer of claim 113 wherein the second version of the file is on
2 the network coupled server.

1 116. A binary differencing synchronization system, comprising:
2 at least a first binary differencing engine coupled to a first network coupled
3 device;
4 at least a second binary differencing engine coupled to a second network
5 coupled device; and
6 a storage device coupled to the first and the second network coupled devices
7 storing binary differencing data from and outputting binary differencing data to said
8 at least first and second binary differencing engines.

In the Abstract:

On page 94, line 2 - page 95, line 7, please delete the Abstract and insert therefor:

--A synchronizer provided on a network coupled processing device comprises

computer code for comparing at least one file on the personal computer and a record of the file on the computer, and providing binary differencing data between the file and the record of the file, and a transaction generator providing at least one binary difference transaction including said binary differencing data to an output. The transaction may be provided to
5 a storage server on the network. This synchronizer may include code for applying a binary difference transaction received from a server or a second synchronizer to the file. The synchronizer is useful in a system for maintaining various versions of the data current.--

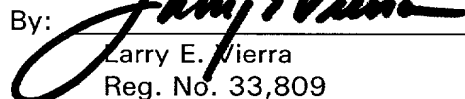
Remarks

This Preliminary Amendment is submitted in order to enter new claims directed to a unique aspect of the inventive subject matter presented in the application, and to provide a revised Summary and Abstract in accordance with the new claims.

The Commissioner is authorized to charge any underpayment or credit any overpayment to Deposit Account No. 06-1325 for any matter in connection with this response, including any fee for extension of time, which may be required.

Respectfully submitted,

Date: 1/2/2001

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